



# Federal Reserve: Lender of Last Resort Functions

**Marc Labonte**

Specialist in Macroeconomic Policy

April 17, 2007

<http://wikileaks.org/wiki/CRS-RS21986>

Congressional Research Service

7-5700

[www.crs.gov](http://www.crs.gov)

RS21986

**CRS Report for Congress**

*Prepared for Members and Committees of Congress*

The Federal Reserve (Fed), the nation's central bank, was established in 1913 by the Federal Reserve Act (38 Stat. 251). Today, its primary duty is the execution of monetary policy through open market operations. Open market operations are carried out through the purchase and sale of U.S. Treasury securities in the secondary market in order to alter the reserves of the banking system. By altering bank reserves, the Fed can influence short-term interest rates, and hence credit conditions, to fulfill its mandate to promote stable economic growth and low and stable price inflation.<sup>1</sup> Besides the conduct of monetary policy, the Federal Reserve has a number of other duties: it regulates financial institutions, issues paper currency, clears checks, collects economic data, and carries out economic research.<sup>2</sup> This report focuses on one particular responsibility: to act as a lender of last resort to the financial system to prevent financial panics. As explained below, the Fed can carry out its lender of last resort duties directly, by making discount loans to member banks, or indirectly, through open market operations.

## The Role of Lender of Last Resort

Financial institutions are susceptible to two types of financial problems. First, an institution can become *insolvent* if its liabilities exceed its assets. For financial institutions, this is likely to be caused by a decline in asset values. For example, when borrowers default on loans, the loans—which are assets to the bank—lose their value, while the value of the deposits the bank used to finance these loans remain the same. Second, an institution can become *illiquid* if creditors withdraw their funds more quickly than the institution can liquidate its assets to pay them.<sup>3</sup> Banks are particularly prone to this problem because of the maturity mismatch between assets (long-term loans) and liabilities (short-term deposits). For example, depositors can withdraw funds from their checking accounts instantaneously, but selling an illiquid asset (such as a loan) at other than distressed prices takes time. For that reason, banks hold liquid reserves to account for typical fluctuations in account withdrawals. But if withdrawals are large enough to exceed reserves, a liquidity crisis will ensue.

From its founding, the role of lender of last resort has been central to the Fed's mission. Recurring financial panics of the 19<sup>th</sup> century and in 1907 showed major structural weakness in the U.S. financial system, providing political impetus to create a central bank. Ironically, the Fed did little to prevent the nation's greatest financial panic, 1930-1933, when more than 9,000 banks failed as a result of a liquidity crisis. In the absence of deposit insurance, depositors knew that they could lose some or all of their deposits if they did not remove their funds before a bank failed. Because of insufficient information about a bank's finances, depositors could only guess if their bank was solvent or insolvent. Thus, bank failures in many cases became a self-fulfilling prophecy. If enough depositors suspected a bank was insolvent—even if it was healthy—a bank run would begin. Because its assets were illiquid, even a healthy bank would be unable to satisfy all withdrawals. At this point, the bank would be forced to close.

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<sup>1</sup> For more information, see CRS Report RL30354, *Monetary Policy and the Federal Reserve: Current Policy and Conditions*, by Gail E. Makinen and Marc Labonte.

<sup>2</sup> A summary of other issues related to the Federal Reserve can be found in CRS Report RS20949, *The Federal Reserve: Recurrent Public Policy Issues*, by Marc Labonte.

<sup>3</sup> A liquid market is one where there are many buyers and sellers so that transaction costs are small and any one transaction has little effect on price. "Adding liquidity" to the financial system is a more generic term that popularly refers to increasing the funds flowing through the financial system. It can be thought to correspond to the more technical concept of increasing the money supply.

There are two ways the government can prevent or mitigate bank panics. The first is to take away the motivation for bank runs (the depositor's fear of losing his savings) through deposit insurance.<sup>4</sup> A classic bank run has not occurred since the establishment of deposit insurance in 1934. The second way is to offer banks a way to swap illiquid assets for liquid assets. The Fed carries out this function through the operation of the *discount window*. But the 1930-1933 banking crisis suggests that a discount window (that requires high-quality collateral) is not enough to avert a bank panic.

Financial panics can be more generalized than a few institutions, and not necessarily limited to the banking system. The Fed can use *open market operations* to increase the liquidity of the entire financial system—although this option cannot be targeted to specific institutions in trouble. In this case, the Fed is not acting as a lender of last resort for any particular institution, rather it is acting more broadly to maintain the smooth functioning of the overall financial system.

## Discount Window Lending

The discount window is the mechanism through which banks borrow directly from the Federal Reserve. The Fed limits discount window lending to banks with liquidity problems—it frowns upon banks using the discount window as a regular source of financing.<sup>5</sup> Short-term loans are called *primary credit* and longer-term loans are called *secondary credit*. All loans must be secured with acceptable collateral, such as U.S. Treasury securities. To prevent the Fed from propping up insolvent banks with discount window lending, undercapitalized banks can typically borrow from the discount window for a maximum of only 60 days during any 120-day period. Discount window lending to non-bank firms is legally possible in special circumstances, but has not occurred since the 1930s.

Discount window lending has the same effect on the economy as expansionary open market operations—by increasing the reserves of the banking system, all else equal, it reduces interest rates and provides a short-term boost to aggregate spending. Nevertheless, open market operations dwarf discount window lending. Discount window loans typically average tens of millions of dollars per week.<sup>6</sup> By comparison, gross open market operations average in the hundreds of billions. Since the mid-1980s, primary credit (previously called adjustment credit) has been below \$0.5 billion per year, and below \$0.2 billion since the early 1990s. In recent years, about 25 banks a week borrowed from the discount window.<sup>7</sup>

In normal financial conditions, banks can manage fluctuations in their reserves by borrowing or lending reserves in the federal funds market. (The interest rate in this private market, the *federal funds rate*, is the Fed's target for monetary policy.) Banks are discouraged from turning to the discount window in normal conditions because the *discount rate*, set by the Fed, is higher than the federal funds target rate. Until 2003, the discount rate had been set below the federal funds target

<sup>4</sup> For more information on deposit insurance, see CRS Report RL31552, *Deposit Insurance: The Government's Role and Its Implications for Funding*, by Gillian Garcia (available upon request).

<sup>5</sup> An exception is the seasonal credit program, which is also operated through the discount window to help small banks manage regular seasonal fluctuations in their reserves.

<sup>6</sup> Federal Reserve Bank of Atlanta, "Helping Banks Meet Liquidity Needs: The Federal Reserve's Discount Window," *Financial Update*, Oct. 2001.

<sup>7</sup> Craig Hakkio and Gordon Sellon, "The Discount Window: Time For Reform?" *Federal Reserve Bank of Kansas City Economic Review*, vol. 85, no. 2, spring 2000, p. 1.

rate and discount window borrowing under normal conditions had been discouraged by the Fed through moral suasion.

There is a special case where discount window lending may need to be extended to financial institutions that are essentially insolvent, rather than illiquid. This is the case of too-big-to-fail banks, or banks whose closure would disrupt the smooth operation of the financial system as a whole. There is no objective way to identify when an institution becomes too big to fail. It can be argued that government regulators have purposely remained ambiguous in their own definition, perhaps in the belief that ambiguity would discourage any firm from acting recklessly because it knew it would be “bailed out” if it failed (the “moral hazard” problem). The most famous example of the “too big to fail” doctrine was the 1984 resolution of the Continental Illinois crisis, which was the nation’s seventh largest bank by assets at the time of its crisis. Continuing access to the discount window was one component of the government’s resolution plan—a plan most remembered for the government’s decision to fully compensate uninsured depositors.<sup>8</sup>

At times, critics have called for discount window lending to be abolished. Although liquidity problems are legitimate, the federal funds market offers banks a market solution to liquidity problems. If a bank cannot convince the private sector to help it overcome liquidity problems, one can argue that discount window lending represents a subsidy from the federal government to a bank that the market has deemed should fail. (The counter-argument is that banks may be unable to tell if a troubled bank is illiquid or insolvent and refuse to lend to it, making the discount window necessary.) This potential for subsidy is a cost that must be weighed against the benefit of a more stable banking system that the discount window arguably provides.

## Open Market Operations

At times, the threat to financial stability is not limited to a few institutions, but is spread throughout the financial system. In these instances, expansionary open market operations is the favored method for restoring calm. Open market operations allow the Fed to inject essentially unlimited liquidity into the financial system as a whole, which offsets the private money flowing out of the financial system. Calm is then restored as sellers of financial instruments can again find buyers, and vice versa. This scenario is different from normal open market operations because, in the absence of financial unrest, the injection of liquidity would be incompatible with the Fed’s mandate to provide price stability.

Unlike discount window lending, open market operations allow the Fed to respond to financial crises in the non-banking financial sector.<sup>9</sup> A limitation of this approach, however, is that the generalized nature of open market operations can be too blunt a tool to neutralize more localized market problems. Theoretically, the Fed could intervene directly in the troubled market (although in some instances this would require statutory changes), but the Fed declines to do so because many would view this as “picking winners.” By contrast, judicious use of the discount window is more politically acceptable when a banking crisis is localized, although in a sense, this could be seen as “picking winners” as well. However, the banking system is particularly susceptible to

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<sup>8</sup> Federal Deposit Insurance Corporation, “History of the Eighties—Lessons for the Future,” (Washington: Dec. 1997), Ch. 7.

<sup>9</sup> Discount window lending to non-bank institutions is legally possible but has not occurred since the 1930s. Federal Reserve, *Federal Reserve System: Purposes and Functions* (Washington: 1994), p. 53.

liquidity problems and plays a very special role in the monetary transmission mechanism that makes it unique.

## **Recent History of the Lender of Last Resort Function**

Lender of last functions cannot easily be distinguished from normal monetary operations executed in the pursuit of stable economic conditions. It can be difficult to identify specific instances when a lender of last resort has been successful, since a successful lender of last resort is one that does not allow financial crises to occur. Because the United States has not suffered a serious financial panic since the Great Depression, the United States has either enjoyed a very long streak of good luck or the lender of last resort has done a very fine job indeed. While identifying such events is admittedly ambiguous, recent history nevertheless offers a few good examples of occasions when financial crises would have been possible, had it not been for the actions of the Federal Reserve.

The most recent and dramatic event in which the Fed acted as a lender of last resort was in the aftermath of the September 11 attacks. To forestall any possibility of a financial panic or a breakdown in banking activity, the Federal Reserve immediately issued a simple 17 word statement: "The Federal Reserve System is open and operating. The discount window is available to meet liquidity needs." This immediately reassured the financial system that ample liquidity would be available on request, without reprimand. To supplement the liquidity sought by banks through the discount window, the Federal Reserve bought a large number of government securities through open market operations. On the three days after the attack, the Federal Reserve injected over \$100 billion per day into the financial system through discount window lending and open market operations.<sup>10</sup> In addition, the Federal Reserve entered into or expanded existing agreements with the European Central Bank, the Bank of Canada, and the Bank of England to swap dollars for foreign currency in order to support foreign financial institutions operating in the United States. On September 17, the day the New York Stock Exchange re-opened, the Federal Reserve lowered the key federal funds rates by 0.5 percentage points. In the next three months, it made three additional rate cuts, bringing the federal funds target to 1.75% on December 11, 2001.

Some other examples of episodes in which the lender of last resort role was important were the Y2K episode, September 1998,<sup>11</sup> and the stock market crash of October 1987. In all three of these examples, economic growth was strong at the time of the intervention, so the expansion of liquidity would not have been justified on usual grounds. In all three cases, the lender of last resort function was carried out primarily through open market operations; discount window lending did not play an important role in any case. While overall discount window lending rose slightly in 1987 and 1999-2000, the increase was not significant; in the fall of 1998, discount window lending fell. The reliance on open market operations may be due to the fact that these episodes did not directly involved the banking sector, with the possible exception of the Y2K episode. In that case, the Fed set up a "Century Date Change Special Liquidity Facility" through the discount window from October 1999-April 2000, but it was never widely used. At its peak,

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<sup>10</sup> See Robert T. Parry, "The U.S. Economy after September 11," *FRBSF Economic Letter*, No. 2001-35, Dec. 7, 2001.

<sup>11</sup> In September 1998, financial markets experienced a brief period of turbulence following the Russian debt default and the collapse of the hedge fund Long Term Capital Management.

borrowing from the facility reached a daily average of \$124 million during the two-week period ending December 29.<sup>12</sup>

## Concluding Remarks

Lender of last resort functions are an invaluable duty of the Federal Reserve, and one that cannot realistically be executed by any other governmental body since the Fed controls the money supply. While few would argue with the general necessity of a lender of last resort, some would question whether providing lender of last resort functions was appropriate in specific cases. The Fed has been vague and ambiguous about the criteria that guide its decision making in lender of last resort situations, seemingly deciding on an ad hoc basis. Ambiguity may be necessary to prevent moral hazard on the part of the financial sector (e.g., if banks were explicitly designated as “too big to fail”), but it makes objective evaluation by outsiders difficult. It is difficult to say whether the economy would have been better off if the Fed had not acted, since one cannot tell what “might have been” in the counter-example. For example, if the financial system could have rebounded on its own in September 1998, the Fed’s intervention may have further inflated the stock market bubble, causing additional damage to the economy when it eventually burst in 2001. Since the economic costs of withholding lender of last resort functions exceed the costs of over-providing, it is arguably appropriate to err on the side of caution, as the Fed seems to do.

## Author Contact Information

Marc Labonte  
Specialist in Macroeconomic Policy  
mlabonte@crs.loc.gov, 7-0640

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<sup>12</sup> Federal Reserve, *Bulletin*, July 2000, p. A6.